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Joint Data Support

to

The DoD Analytic Agenda

SIPRnet: <https://jds.pae.osd.smil.mil>

NIPRnet: <http://jds.pae.osd.mil>

- ➡ **Analytic Agenda Refresher**
- ➡ **Where We Fit**
- ➡ **Challenges**
- ➡ **Lessons learned / way ahead**

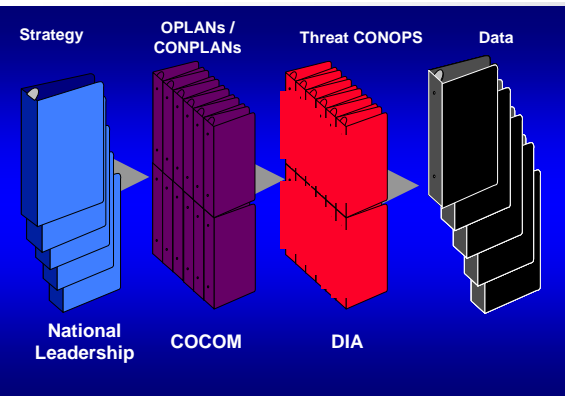
Analytic Agenda

- ☞ **Department-wide agreement to make major, joint analysis efforts more effective, efficient, and relevant**
- ☞ **Building blocks include:**
 - National Security Strategy and other strategic and planning guidance
 - Scenarios and data (Defense Planning Scenarios and Multi-Service Force Deployment)
 - Studies and wargames (e.g., OA-03 thru -06, MCS)
 - Results in an **Analytical Baseline**: a package comprising a scenario, concept of operations, and integrated data used by DoD Components as a foundation for strategic analysis
- ☞ **Highly collaborative and transparent:** OSD, Joint Staff, Services, COCOMs, agencies, etc. participate

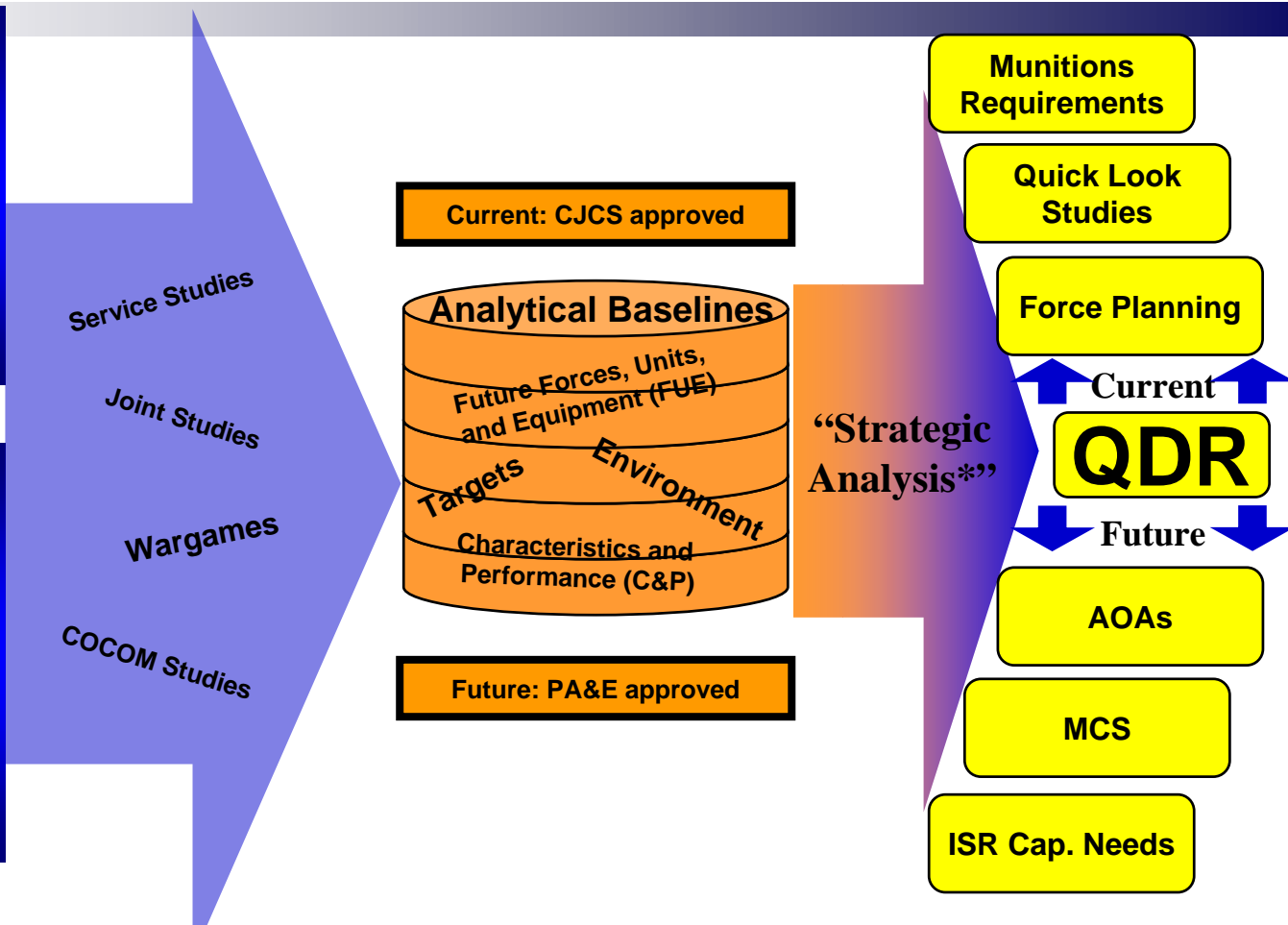
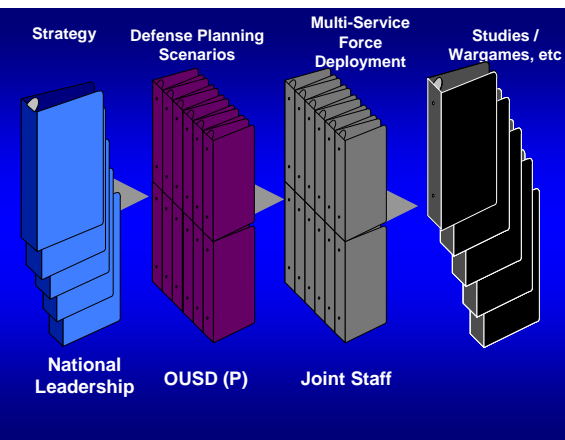
MANAGED BY OSD AND THE JOINT STAFF

Analytical Baseline Development Process

Current year:



Future year:



“*Strategic Analysis. An analysis of force sufficiency and effectiveness conducted by the DoD Components to support the development and evaluation of the defense strategy. Such analyses address both forces and enablers (e.g., inter-theater and intra-theater lift capability).” [DoDD 8260.1]

OSD policy regarding scenario use

Excerpt from D, PA&E memo of 13 Oct 04 (cover letter on the MCO-2 2012 analytical baseline):

“In support of the strategic planning process, the Department is assembling a set of baselines for DoD analyses. Derived from the Defense Planning Scenarios and associated Multi-Service Force Deployment databases, the baselines apply to major combat operations in different regions. They cover the midterm (2012) and, in some cases, the long term (2024). The Joint Staff is also leading an initiative with the COCOMs to develop baselines for the current year (2004-05)...

“Components are expected to use the baseline as the starting point for analyses supporting the PPBE process, the Quadrennial Defense Review, and other major defense planning efforts.”

Analytic Agenda -- Status



Complete

- DPSs & MSFDs: All 3 major combat operations (MCO-1/2/3), Homeland Defense (HLD), Baseline Security Posture (BSP)
- Vignettes for QDR roundtables
- Major studies: OA-03, OA-04, OA-05
- Analytical baselines:
 - ❑ *Future year*: MCO-2, MCO-3
 - ❑ *Current year*: 3 COCOMs



Ongoing or planned




- DPSs & MSFDs: Develop QDR vignettes into robust scenarios and data, revise MCO-1 to an “irregular” scenario, QDR-based HLD and BSP update, Strategic Deterrence
- Major studies conclude: MCS (summer), OA-06 (fall)
- Analytical baselines: MCO-1, MCO-2 update, MCO-3 update, BSP, current year AB updates

The QDR is an Analytic Agenda culminating point. Guidance and lessons learned from the QDR will help focus and guide the Joint analysis community's efforts for the next several years.

Where JDS fits In the Analytic Agenda

From DoDI 8260.2 (21 Jan 2003):

Mission of JDS. “...provide support for the identification, collection, development (including verification and validation), management, and dissemination of data and associated analytical baselines.”

-  ***Data identification and collection***
 - Specify the data needed for analytical baselines
 - Collect and store: data, metadata, assumptions, context, and other information needed for the analytical baselines
-  ***Verification and validation checks***
 - Working with data providers
 - Deposit verified data & associated metadata in data repository
-  ***Data management and dissemination***
 - Prepare & archive analytical baseline data sets & metadata
 - Disseminate for use in strategic analyses conducted by the Components

Improve the Quality and Consistency of DoD Analyses

- ☞ **A “Regional Library” of data holdings with**
 - Analytical Baselines and other Analytic Agenda products
 - Selected High-usage Data Sets
- ☞ **A Data Exchange with**
 - High-speed Links to Component Holdings
 - Data Help/Reference Desk
- ☞ **Oriented at Theater/Campaign-level data sets**
- ☞ **Current year and future year**
- ☞ **Non-model and model specific data**
- ☞ **NEW: Model requirements** – Making source data model-ready / obtaining/developing data models

Allow analysts to focus on analysis!

Basic Principles

- ➡ **Resolve data issues early in the analysis**
- ➡ **Adhere to data access and release procedures per applicable business rules**
- ➡ **Document and archive key data products, transformations, and other study materials**
- ➡ **Provide easy access to data via secure, web-based tools**

***VISIBILITY, ACCESSIBILITY,
TRACEABILITY***

Challenges

CHALLENGE	STATUS
<i>Visibility & accessibility of data</i> “My data, you can’t have it!”	SIGNIFICANT PROGRESS
<i>Traceability of data</i> Instance data rarely comes with good metadata	SOME PROGRESS – STILL NEEDS WORK!
<i>Lead times on Analytic Agenda products</i> Organizations need <i>more</i> analytical baselines, and <i>sooner</i>	DISCUSSIONS UNDERWAY FOR STREAMLINING IN POST-QDR PERIOD
<i>Model requirements</i> Making source data model-ready and obtaining data models	GROUND BROKEN WITH JICM – MOVING ON TO OTHER MODELS
<i>Navigability of JDS website</i> User-friendliness to JDS customers	NEW LOOK ROLLED OUT FALL 04 –UPGRADE IN PROGRESS
<i>Data classification</i> TS, SCI, NOFORN	HIGH END – JDS SCIF NEARING CERTIFICATION. LOW END – AA PRODUCTS WILL BE MORE RELEASABLE IN THE FUTURE
<i>Releasability of executables...</i> ...as part of analytical baselines	SIGNIFICANT PROGRESS
<i>Burgeoning number of customers for Analytic Agenda products</i>	HANDLING VIA PROACTIVE JDS ACCOUNT MANAGEMENT, STREAMLINED BUSINESS RULES, AUTOMATION

JDS activities

Major Analytic Efforts (Cross-DoD)

- ➡ Adaptive Planning
- ➡ Analytic Agenda
- ➡ Analytical Baselines
- ➡ Capabilities Based Planning (CBP)
- ➡ Defense Planning Scenario (DPS) Development
- ➡ DoD model review & data model automation
- ➡ Global Force Management (GFM)
- ➡ Mobility Capabilities Study (MCS)
- ➡ Multi-Service Force Deployment (MSFD) Development
- ➡ Operational Availability (OA) studies







Reference Information (Supports many efforts)

- ➡ C4ISR
- ➡ DoD Contingency Operations
- ➡ Facilities & installations
- ➡ ForceGen/Warfighter – OGRE
- ➡ JDS website
- ➡ Logistics / mobility
- ➡ Munitions
- ➡ U.S. & non-U.S. air / ground / maritime forces, units, equipment (FUE) data
- ➡ U.S. & non-U.S. characteristics & performance (C&P) data
- ➡ WMD

Lessons learned / way ahead for the Analytic Agenda

- ☞ **More fully engage AA customers**
 - E.g., acquisition community, intelligence community, JFCOM
- ☞ **Streamline the process**
 - More products, quicker
- ☞ **Produce products with greater releasability**
 - To selected allies
 - To training and experimentation communities
- ☞ **More closely examine the “other 3” quadrants**
 - To date, mostly “traditional”
 - QDR will inform this effort
- ☞ **Collaborate more on analytical tools**
 - The “data transparency battle” is underway – the time to engage on M&S transparency is *NOW*

Lessons learned / way ahead for JDS

-  **Facilitate the Analytic Agenda “Way Ahead”**
-  **Collect and disseminate QDR results**
-  **Facilitate the bundling of metadata with instance data**
-  **Encourage model transparency via data model construction and algorithm examination**
-  **Discover means of managing high classification level data**
-  **Continuous process improvement – customer / stakeholder engagement and feedback are key!**

Questions?

If you have SIPRNet access,

visit the JDS website at <https://jds.pae.osd.smil.mil> to create a user profile and request a password

If you do not have SIPRNet access,










visit the JDS website at <http://jds.pae.osd.mil> and click the “Contact Us” link or e-mail JDS at jds@osd.mil.

JDS Director: Dr. Jim Stevens, james.stevens@osd.mil

JDS CRM: Suzy Majerich, suzy.majerich.ctr@osd.mil

Backups

Model Management Initiative Goals

TODAY		TARGET
Proprietary models		Open access to models
Stovepiped development		Configuration management
Documentation when time permits		Documentation within deliverable
Training on the job		Established training programs
Data sources ill-defined		Data visible and traceable
Data structure ill-defined		Data model define data structure
Data definitions ill-defined		Data dictionaries
Black box functionality		Functionality visible and traceable

What JDS Was Supposed To Be

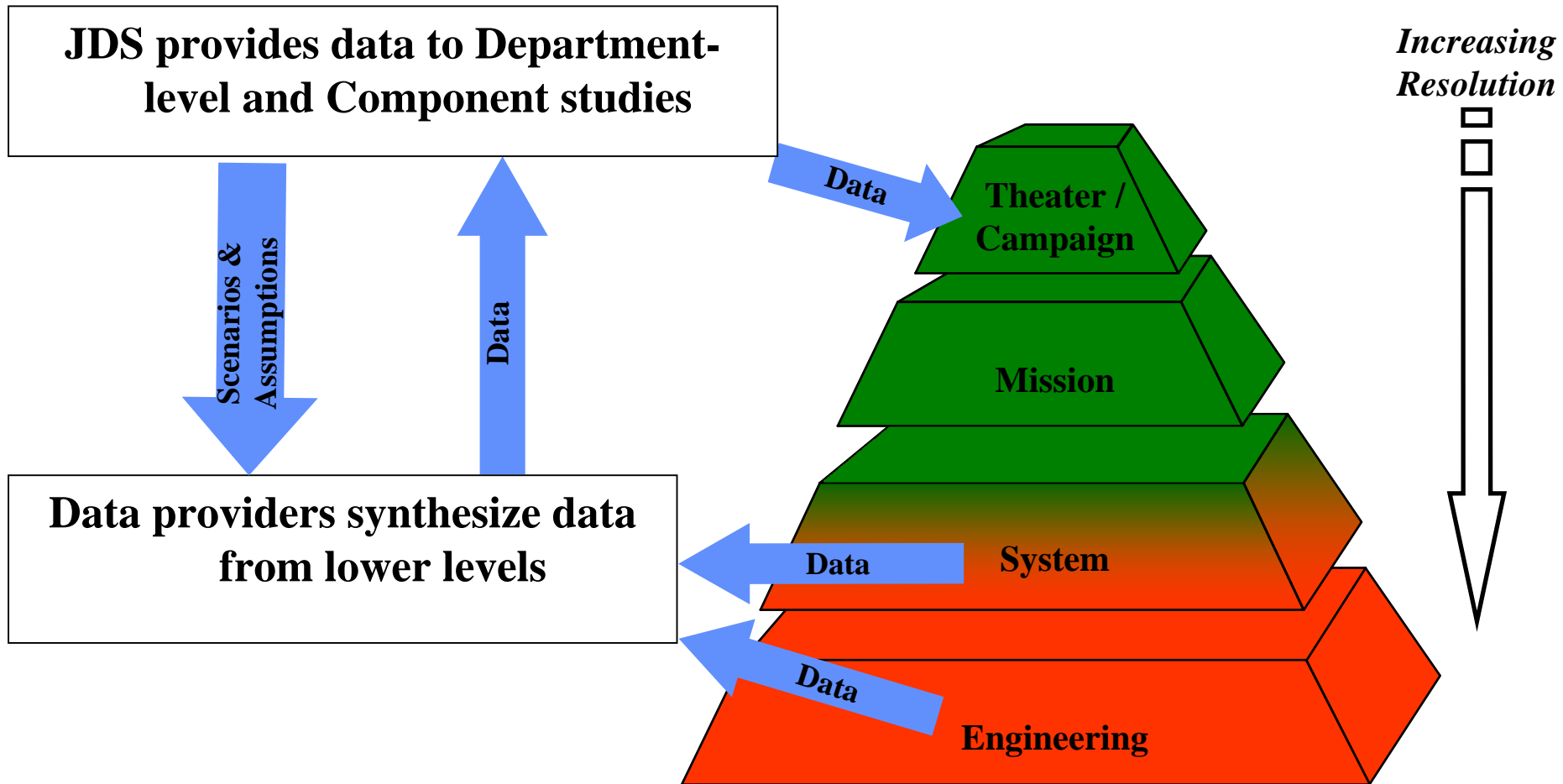
From DepSecDef memo of 7 June 1996:

- ☞ **Gatherer and manager of data for the Joint Analytic Model Improvement Program (JAMIP)**
- ☞ **A Joint data warehouse:**
 - Enhancing Department's ability to produce studies efficiently and with greater fidelity
 - Reducing reliance on *ad hoc* data requests that tax analytic resources
 - Providing readily accessible, authenticated data for current suite of [theater-level] models
 - Supporting emerging requirements of JWARS
 - Making data accessible to the wider DoD modeling and simulation community via DMSO's Modeling and Simulation Resource Repository

What's Changed?**What's changed since 1996?**

	Then (1996)	Now (2004-5)
Focus	JAMIP	Analytic agenda
Products	Data only	Automated customer service; products other than just “data” – i.e., “information”
Customers	JAMIP modelers, study directors, JWARS office, other customers (few: 2-3 per month)	Nearly 900 support requests via automated system since 5/03 (as of 12/04), plus support to DoD study leads and JWARS

Data Flow and Level



Analytic Agenda

100,000 Foot Level

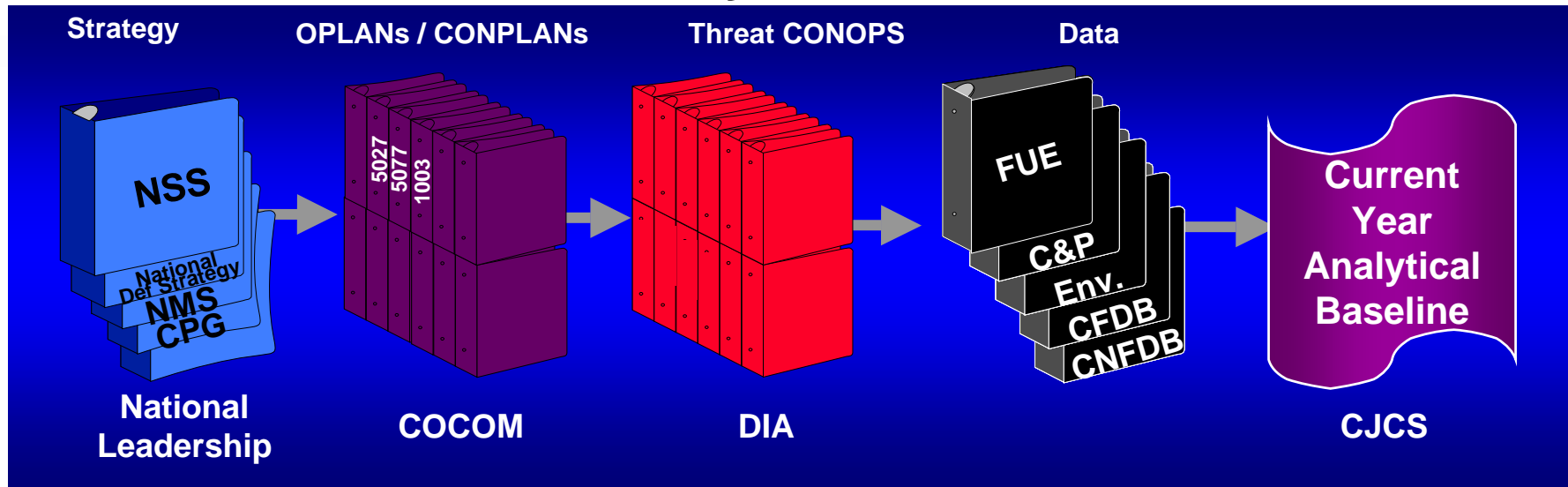
DoD-wide agreement to make major, joint analysis efforts more effective, efficient, relevant

- *Time outputs to decision milestones (Planning and Budgeting)*
- *Improve data, and make it more available*
- *Improve tools and processes*
- *Create baselines for strategic analysis (current and future)*
- *Accelerate the deliberate planning process*

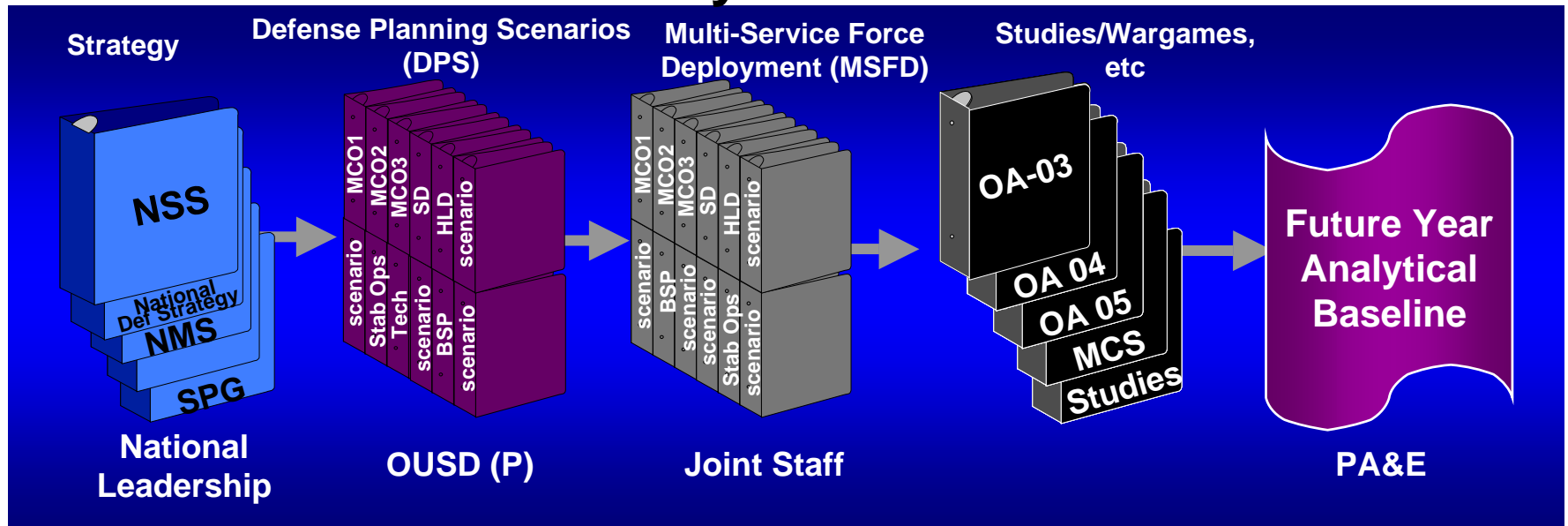


**“CREATING THE
SAND TABLE FOR
PLANNING AND
ACQUISITION”**

Current year:



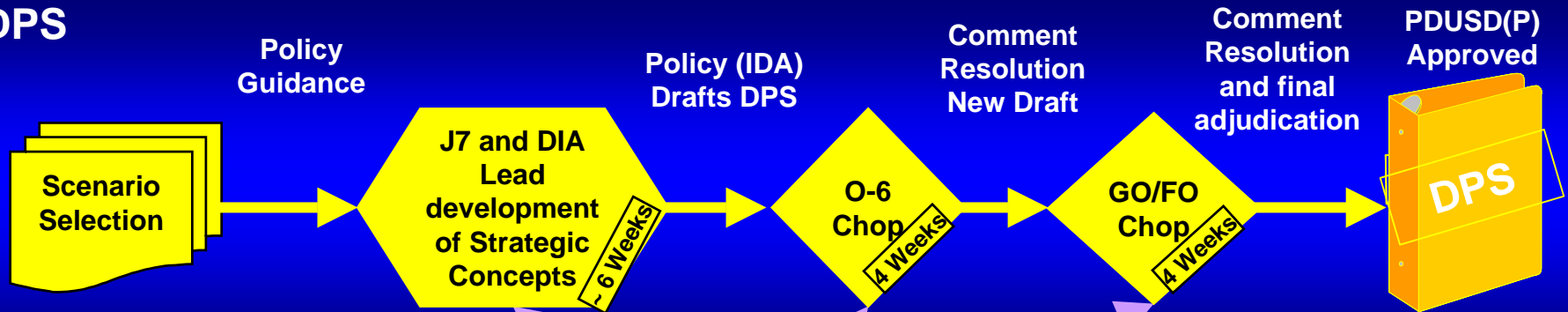
Future year:



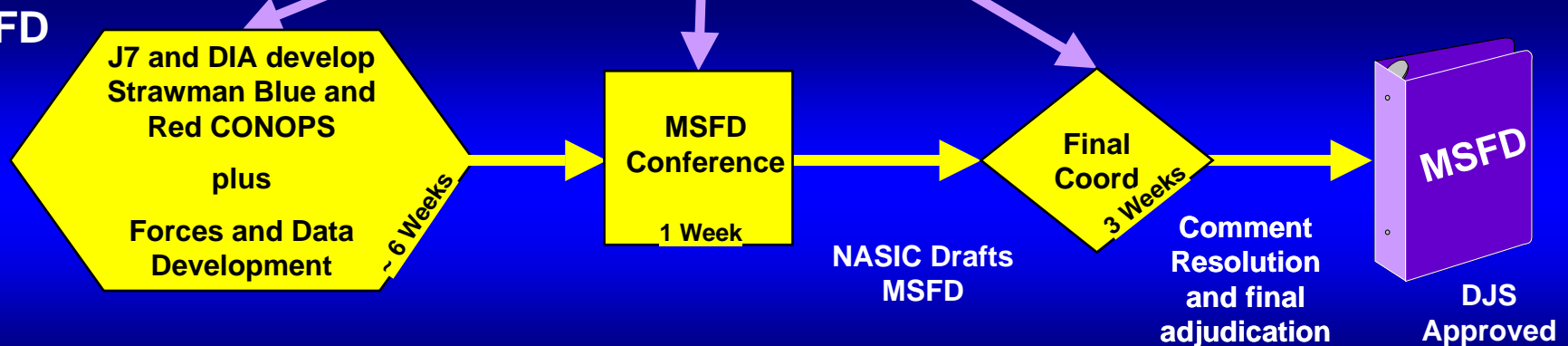
DPS and MSFD

Future Year Development Process

DPS



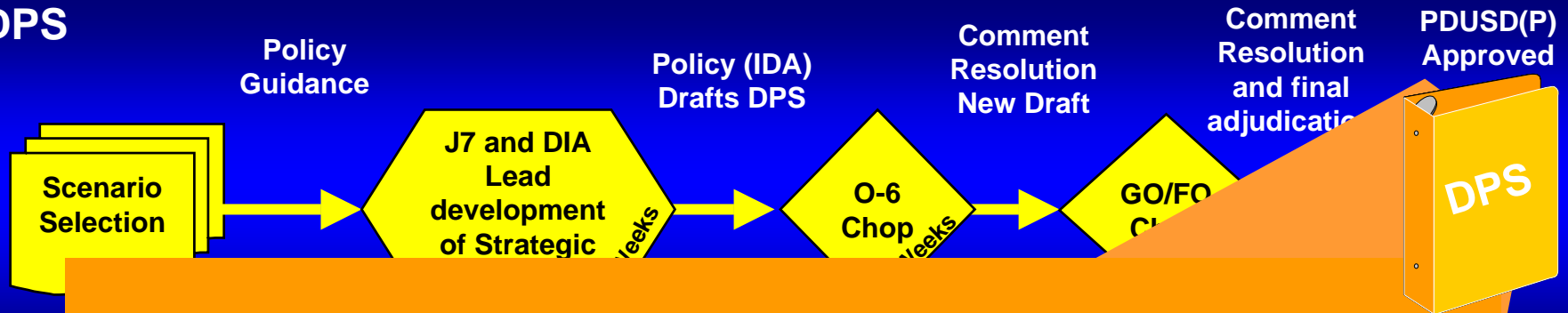
MSFD



DPS and MSFD

Future Year Development Process

DPS



- Contains Policy Guidance and Blue/Green/Red strategic level concepts
- Replaces “Illustrative Planning Scenarios” (IPS)
- Mid (End FYDP) and Long Term (FYDP + 10) timeframes
- Variable parameters to explore and widen trade space

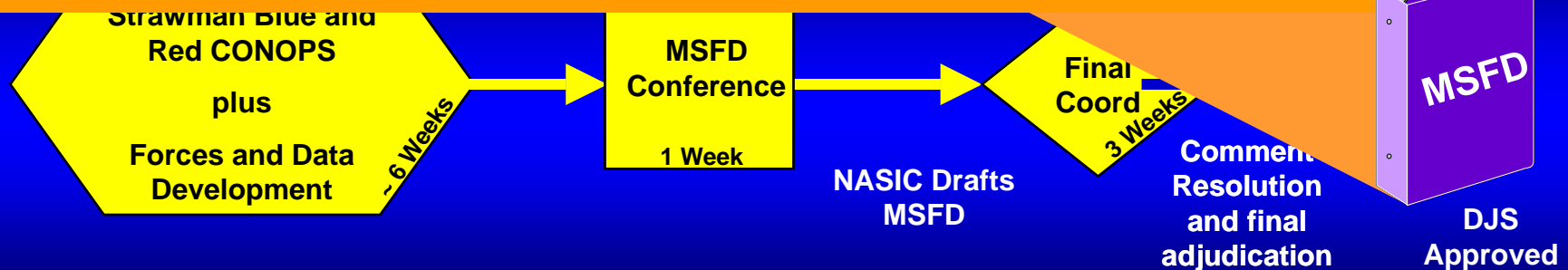
MSFD



DPS and MSFD

Future Year Development Process

- Provides order of battle-like detail (forces, units, equipment, CONOPS)
- Developed through collaborative effort, led by the Joint Staff
- Red, Blue & Green Data
- Supports:
 - Future Year Analytical Baseline development for use in:
 - Campaign analysis
 - Acquisition Program analysis (e.g., GMTI, FA22, JSF, LBSND)
 - Operational Test & Evaluation (e.g., OPTEC, AFOTEC)
 - Studies



Analytical Baselines

“The Payoff”

Analytical Baseline: A package comprising a scenario, concept of operations, and integrated data used by DoD Components as a foundation for strategic analyses

Scenario

- Location
- Year
- Objectives

CONOPS

- Red
- Blue
- Green

Other Data

- Characteristics and Performance (C&P)
- Forces, Units, and Equipment (FUE)
- Environmental (terrain, weather, ...)
- Targets

+ Analysis

To encourage
internal consistency

***“Warm” databases ready to support
Department-level analyses***

Analytic Agenda Bottom Line

- ☞ **The Analytic Agenda provides a consistent/linked analysis ready for use as a common starting point...**

More Effective:

- A deeper understanding of key issues
- Better data via collaborative development
- Aligns analytic efforts with SPG development and budget cycles

More Efficient:

- Quicker response to important questions
- Better understanding of differences among competing analyses

More Relevant:

- Supports COCOM planning activities
- Supports Capabilities Based Planning activities
- Supports Quadrennial Defense Review activities